

Evaluation of a Sunscreen Product Compared With Reference Standards P3, P5 and P8 in Outdoor Conditions: a Randomized, Double-Blinded, Intra-individual Study in Healthy Subjects

Authors: Corinne Granger¹, Gitanjali Petkar², Muzzammil Hosenally^{2,3}, Javier Bustos⁴, Carles Trullàs⁴, Thierry Passeron^{5,6}, Jean Krutmann^{7,8}.

Affiliations:

¹ Stella Polaris Europe, Paris, France

² Centre International de Développement Pharmaceutique, Phoenix, Mauritius

³ Department of Economics and Statistics, University of Mauritius, Réduit, Mauritius

⁴ Innovation and Development, ISDIN, Barcelona, Spain

⁵ Department of Dermatology, CHU Nice, University Côte d'Azur, Nice, France

⁶ C3M, INSERM U1065, University Côte d'Azur, Nice, France

⁷ IUF Leibniz Research Institute for Environmental Medicine, Dusseldorf, Germany

⁸ Medical Faculty, Heinrich-Heine-University, Dusseldorf, Germany

ORCID IDs:

CG: 0000-0001-5117-448X

GP: 0000-0003-3700-2256

MH: 0000-0001-7778-9482

JB: 0000-0001-6892-4814

CT: 0000-0003-1925-5102

TP: 0000-0002-0797-6570

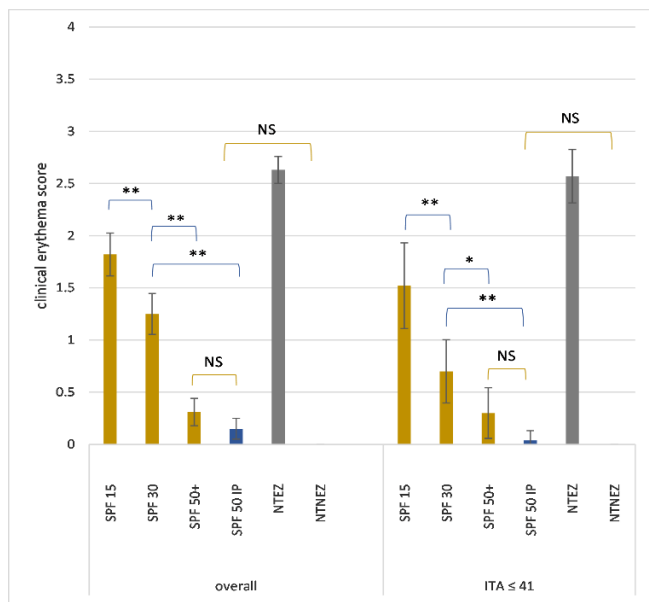
JK: 0000-0001-8433-1517

Correspondence: carles.trullas@isdin.com

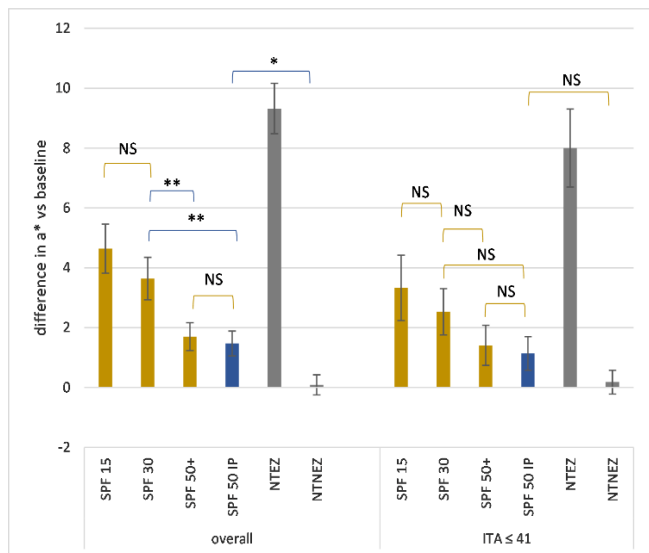
Supplementary Material

Product	Sun filter ingredients
IP	Octocrylene (8%), butyl methoxydibenzoylmethane (4.8%), ethylhexyl salicylate (4.8%), polysilicone-15 (3%), bis-ethylhexyloxyphenol methoxyphenyl triazine (1.5%), phenylbenzimidazole sulfonic acid (3%)
P3	ethyl hexyl methoxycinnamate (3%) , butyl methoxydibenzoylmethane (0.5%), phenylbenzimidazole sulfonic acid (2.78%)
P5	butyl methoxydibenzoylmethane (3%), octocrylene (10%), ethylhexyl salicylate (5%), benzophenone-3 (5%)
P8	ethyl hexyl methoxycinnamate (5%), bis-ethylhexyloxyphenol methoxyphenyl triazine (3%), ethylhexyl salicylate (3%),methylene bis-benzotriazolyl tetramethyl-butylphenol (10%)

Supplementary table S1. Key ingredients in products tested

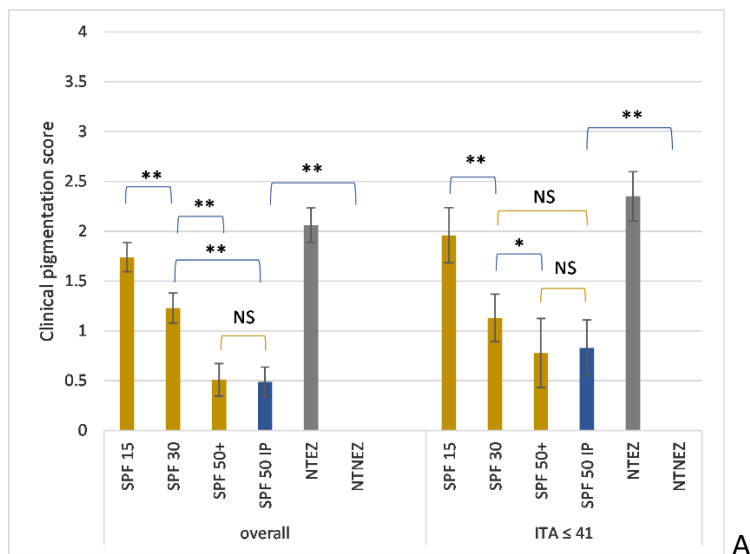


A

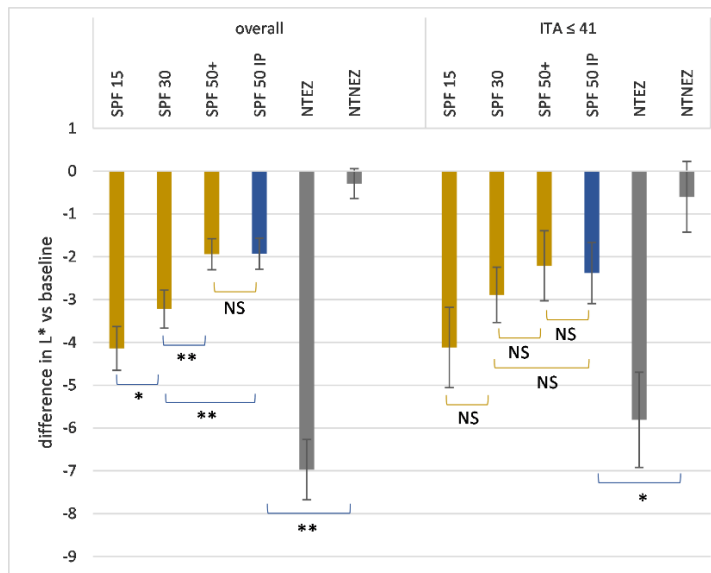


B

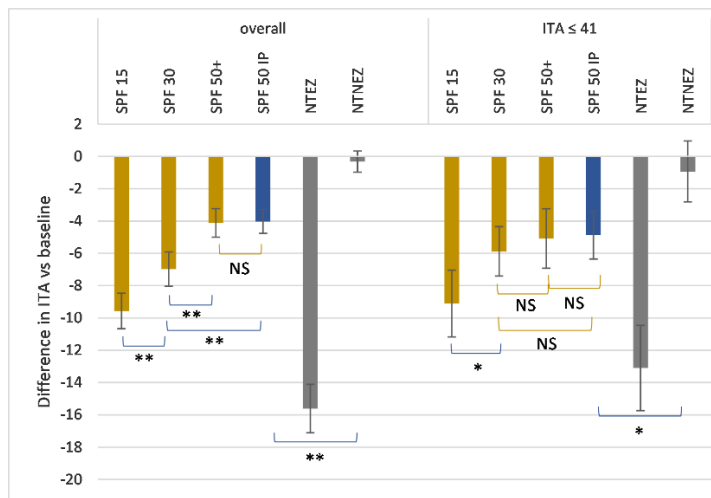
Supplementary Figure 1. Analysis based on data from 2-hour exposure only: erythema at 24 h. A, clinical score; B, difference in a* vs baseline. The height of the bars indicates the mean and the error bars indicate the 95% confidence intervals.



A



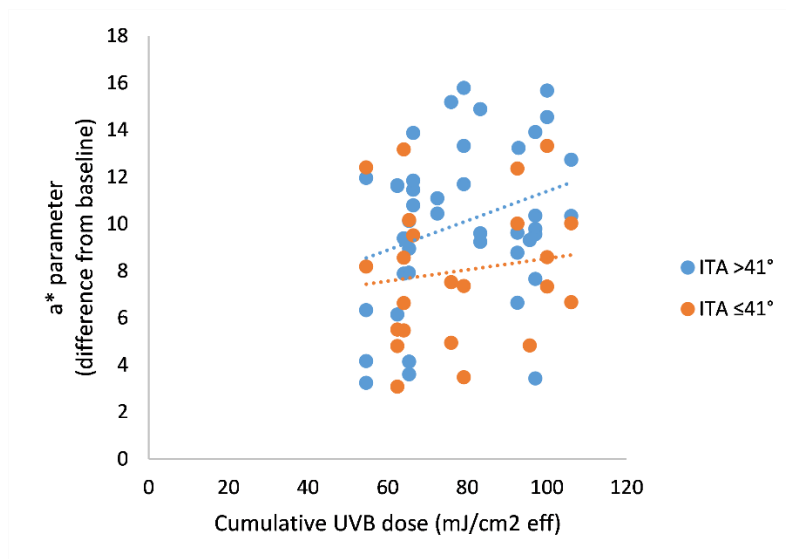
B



C

Supplementary Figure 2. Analysis based on data from 2-hour exposure only: pigmentation at day 8. A, clinical score; B, difference in L* vs baseline; C, difference in ITA° vs baseline. The

height of the bars indicates the mean and the error bars indicate the 95% confidence intervals.



Supplementary Figure 3. Scatter plot of a^* against cumulative UVB dose for the unprotected exposed area. Note that above a cumulative dose of $50\text{--}60\text{ mJ/cm}^2$, the change in a^* was at least 2 units throughout, implying perceptible erythema, in line with the cut-off point of 2 units in ISO SPF testing. This suggests that redness was present with cumulative doses as little as 50 mJ/cm^2 .